1995-2010
Leonardo da Vinci Programme
15th Anniversary

Education and Culture DG
Lifelong Learning Programme

No.2010-FR1-LEO05-14468

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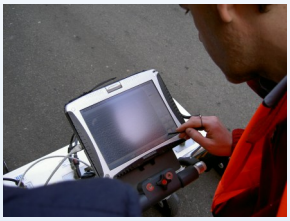

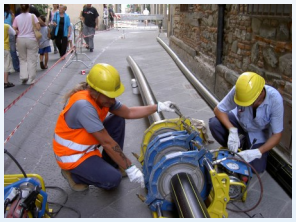

e-learning and innovation in vocational training for water industries

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http://www.e-leanor.eu

about eleanor

As underlined by the European Union within the vision of European Technical Platform WSSTP, the European water sector is highly fragmented: water resources, water supply and sanitation/wastewater have often been managed locally. This fragmentation is an obstacle for developing a research strategy for a competitive water sector. Overcoming this obstacle is one of the priorities for the European water sector. During the last 10 years, a tremendous work has been achieved in order to establish a coherent legal framework at the European scale with a full set of directives dealing with water issues. At the same time, the vocational training has been progressively developed by the private and public sector but with clear priorities on technical evolutions which have emerged in the water sector. The training material actually available is mainly focused on technical aspects but the relation with the legal framework is almost not covered. Very few modules or material are available and are not coherently organized in learning paths or with identified competences for professionals. Today, both private and public sector involved in the water field need standardized and harmonized learning/training material to be integrated within the vocational training programs.

The eLEANOR project, lasting for two year from October 2010, aims to cope with these problems by improving the training in the water sector through the optimisation and standardisation of the learning processes and pathways, also with the help of e-learning facilities and transfer of Good Practices.

The eLEANOR Newsletter no. 1 offers a general overview of the project and its Consortium. Anyone interested in the project activities is invited to contact the eLEANOR Project Office (see the back cover).

About the project

eLEANOR is an initiative co-funded by the LLP – Leonardo da Vinci Programme, dealing with vocational training for professionals of EU water industry and services in private and public sectors.

The project aims at improving the training in the water sector through the optimisation and standardisation of the learning processes and pathways, also with the help of e-learning facilities and transfer of Good Practice.

eLEANOR is also performed in compliance with the European Credit System For Vocational Education and Training (ECVET) contributing also to its testing. Learning pathways, addressed to the technicians, engineers and managers of the water sector, are deployed answering the needs of the professionals and through the experiences of the partners, consisting in the main EU water companies, academies and vocational training centres, representing the most important eLEANOR target users. The subject of the training is strictly connected to the new EU context where the water industry has to comply with Directives providing a common framework for the stewardship of the environment as well as social considerations. The Directives aim to improve the quality of the environment, protect human health, rationally use natural resources and promote measures at international level to deal with environmental problems. The implementation of the new legal framework, above all the Water Framework Directive (2000/60/EC), is a challenge for the water industry. Nevertheless, the identified shortcomings related to training and skill of personnel can hamper such an implementation. eLEANOR focuses on: (1) waste water treatment, (2) water supply, (3) storm water management, reflecting the main demands of skills by EU Directives above.

An on-line Course Catalogue will be implemented to collect and rationalise the offer of training material in the water sector by project partners and other course providers linked to them.

The project will allow to define templates for training material, modules and sessions. The general approach will be based on the presentation of the legal texts completed with examples and practical exercises in order to understand concepts and the way to implement them within the daily activities. Each part of the different directives will be linked to practical examples and exercises covering the key aspects of the water Directives and allow partners to identify good practices and share them.

This communication principle among the partners will be used in order to define some templates for training material and architecture of training modules. Whenever possible, training material will be exploited in e-learning. To this purpose, an eLEANOR e-learning platform will be made available to the course providers for uploading their courses. Examples will be experimented in the 3 identified professional categories of the water sector and evaluated as training material in demo workshops and during the testing phase of the project with the e-learning environment.

eLEANOR training material will be then conceived and implemented with reference to the 3 following categories of professionals:
Technicians: in charge of operational activities, such as operational management of WWTP (Waste Water Treatment Plants) and equipments, water and wastewater analysis.
Engineers: assigned to the management of teams and equipments and/or to the design and implementation of technical tools and (integrated) systems.
Managers: in charge of the coordination of activities and departments; the training for which is more focused on the legislative framework and related implications.

eLEANOR European dimension is assured by the geographic extension of the partnership (some partners have also branches outside the participating Countries) and their participation into networks, groups and platforms in the specific sector. Project outcomes are then proposed by the partners to potential end users through their dissemination channels in order to be validated and exploited according to a valorisation plan.

eLEANOR expected impact is at the European scale. The coverage of the project allows an effective and mutual transfer of knowledge and to cross-relate different situations. The products are then able to work in different contexts and support as well the process of training standardization and certified comparison in this field that is one challenge of training at the EU level.

goals and objectives

The EU Priority "Developing Vocational Skills Considering the labour market needs – New Skills for New Jobs" has been selected because of the support of eLEANOR to the working life in order to make Vocational Education and Training (VET) more responsive to the labour market needs. In fact, water companies have been coping for several years with water related Directives (and above all the Water Framework Directive 2000/60/EC) for the implementation of which skilled and trained personnel is required. The lack of these professional profiles in water companies is hampering the implementation of these directives and the achievements of related objectives. Integration of learning with working life is highly pursued by the project, which foresees also the use of e-learning facilities to allow the trainees to organize their training according to their working commitments. That will be pursued according to the following goals and objectives.

Assessment of training needs in the water sector

An analysis both in public and private sectors will allow to identify the eLEANOR training subjects. This analysis will be carried on the base of preliminary surveys on topics of interest for water companies already carried out at the proposal phase.

Curricula for professionals in the water sector

Currently, there are not specific programmes and initiatives at EU level aimed at standardising the vocational training for professionals of the water domain both in private and public sectors. eLEANOR intends to fill this lack and pursue these learning objectives in view of facilitating and optimising the implementation of EU water related Directives all over Europe.

Catalogue of available courses on water management

eLEANOR intends to collect the training courses on water management available in the Consortium and document them through the use of metadata, in order to optimise and rationalise the exploitation of available material and the transfer of knowledge from a partner organisation to another.

eLEANOR Training Framework

A Training Framework is developed with the aim to integrate the different components of the eLEANOR training offer. It consists of the Training Package (pathways and their meta-information), of the e-learning tools and of the training material itself. eLEANOR Training Portal will be the interface which will allow the final user to get information on the training initiative and have access to the curricula and related courses.

Project Partnership

The eLEANOR Consortium is a balanced structure of some of the major actors in the field of water services in Europe, namely:

- Water Companies (industrial partners) in charge of water services and research, operating on behalf of public entities, branches of major water companies and with internationally recognized expertise, able to involve several thousands of professionals from the water sector.

- Universities (academic partners) dealing with education on water, which are already organised in the EuroAquae Consortium operating since 2004 the EuroAquae Erasmus Mundus master course, involved in the EuroAquae Research Group and developing joint activities at the international level like HydroEurope and HydroAsia. They are using extensively the Jahia environment, having developed a significant experience in training and collaborative engineering in water field.

- an Association, with significant experience in EU projects (almost 20 years), acting as Project Office and also able to provide its expertise in the structuring training initiatives within EU projects and, as horizontal domain in water resources management, in GIS application fields.

eLEANOR project is then based on the significant experience of the partners in the different aspects of education and training, especially on the use of e-learning platforms; most of them are also involved in the European Platform WSSPT.

Université de Nice Sophia Antipolis (FR)

The Department of Hydroinformatics & Water Engineering is responsible for education and training in Hydroinformatics and Water Sciences in Polytech'Nice-Sophia. With a specific approach, the Department develops courses focusing on modeling methods and tools applied the water management. It manages several master courses, in particular the EuroAquae Erasmus Mundus master course since 2004 with four other European universities delivering a joint MSc (http://master.euroaquae.eu). The EuroAquae consortium led by Polytech'Nice-Sophia has established institutional collaborations with various education and research institutions worldwide. Industrials of the water field have also underlined their interest in such cooperation activities. The main scientific topics covered by the Department are: Urban water management, Sustainable watershed management, Coastal zone and marine environment, Climate change and consequences, Risk assessment, Hydro-ecology, and Software engineering.

project partnership

GISIG – Geographical Information Systems International Group

GISIG (www.gisig.it) is a sectoral non-profit association on Geographical Information Systems (GIS) and on Geographical Information (GI). Its member organisations (from more than 20 EU Countries) operate on territorial and environmental subjects. GISIG has a long experience in the application of GIS to environmental domains and related training initiatives. As far as water management is concerned, GISIG is maintaining and promoting the TECHnology for WAter REsources Special Interest Group (TECHWARE-SIG) within the WATER-GIS thematic network, with the aim to create a reference and a contact point for stakeholders and operators in the specific field. With the TECHWARE-SIG, GISIG supports the synergistic implementation of EU water related Directives at Member States level through the participation in research and training activities as well as an addressed information to stakeholders in the field and a cooperation among enterprise and research world.

Universitat Politecnica de Catalunya (ES)

The UPC team has a long experience on the Hydraulics and Hydrology topics, as well as in new teaching developments. In the last 5 years we participated in different European projects (RAMFLOOD and RAMWASS on flood problems and warning systems) and during dissemination phase we have initiated a continuous education program oriented to professionals and local authorities. We are partners of a Master Program on Hydroinformatics and Water Management, EuroAquae, first joint degree of the Erasmus Mundus programs, as well in an exchange program with Korean universities. A Master program on Water Resources is offered to Spanish speaking professionals. Risk analysis is one of the most relevant topics in research now; we are preparing a new regulation on risk problems for local authorities, also oriented to mitigate the risk for pedestrians related to flash flood problems. Educational programs are offered in different Latin-American countries and scholars' exchanges are periodically produced.

Suez Environnement (FR)

SUEZ Environnement and its subsidiaries are committed to the daily challenge of protecting resources and ecosystems. The company provides innovative solutions to millions of people and industries in the drinking water, wastewater treatment and waste management fields. In the water sector it's operations include:
- catchment, treatment and distribution of drinking water;
- collection and purification of domestic and industrial water
- biological and energy development of waste resulting from purification.

With 65 400 employees and a worldwide presence, SUEZ ENVIRONNEMENT is a world leader exclusively dedicated to water and waste management services. In 2008, it attained revenues of € 12 364 million and intends to invest € 65 million in R&D in 2009.

SUEZ Environnement has developed a first rank international expertise with several subsidiaries focused on the different missions of the water services, such as Degrémont, the world specialist in water treatment for local autho rities.

Brandenburgische Technische Universität Cottbus (DE)

The research and education unit "Hydroinformatics and Water Management" groups several academic and professional activities in Hydroinformatics at BTU Cottbus since 1994 and is responsible for education and training in Hydroinformatics esp. in the Erasmus Mundus course programme EuroAquae. The integrative combination of ICT applications, numerical simulation approaches and information/data management/analysis techniques is applied to several courses focused on modeling methods and tools applied for Hydroinformatics, Environmental Informatics and "Bauinformatik" (applied computer sciences in civil engineering). This includes basic academic courses for MSc and BSc programmes, continuing education short courses and summer schools for long life learning and open distance learning courses for academia and professionals. The unit was the first institution to establish an open distance learning course world wide using the Internet since 1999: HydroWeb.

Budapesti Muszaki és Gazdaságtudományi Egyetem (HU)

The Department of Hydraulic and Water Resources Engineering is one of the oldest Departments of the Faculty of Civil Engineering at the Budapest University of Technology and Economics (BME). From Spring 1997 this includes two branches: Surveying and General Civil Engineering (also considering Structural, Highway and Water Resources Engineering).

The Department has classes for general introduction to Water Resources Engineering and Water Resources Management.

These are Hydrology and Water Management designated to freshmen and sophomore students. Students who want

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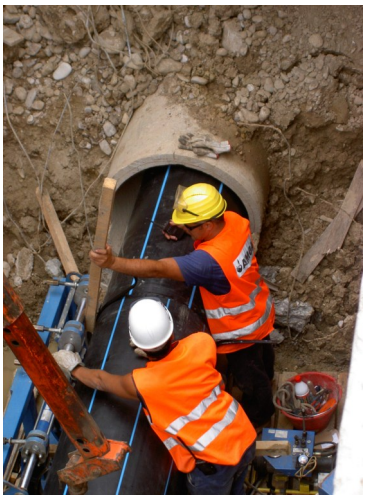
to know more about these sciences can take the Department's more advanced classes from the junior year. Some of the classes are offered in English, German and French.

The Department also offers a large scale of Field Courses as an insight to practical Hydrology, Water Resources Engineering and Water Resources Management. Some of these are held in Hungary, some in various EU countries with students from all over the world.



IREN Acqua Gas Spa (IT)

Iren Acqua Gas Spa is a multi–utility company operating in i) Water distribution services, waste and drinking water treatment, operation of hydroelectric plants, attention to environmental concerns in the engineering of hydraulic infrastructures and treatment plants; ii) Energy services. Iren has come up with a series of complementary services to support its core business activities: i) environmental quality services, water resources control; ii) process engineering services (including GIS); iii) research and development services (mainly drinking water and waste water treatment; iiii) Training services for technicians and specialists in the water sector.

Moreover Iren through AMGA Foundation born in 2003 and having as mission the “Water Resources Protection”, organize training initiatives, courses and events both addressed to internal staff and to external organisations at national and international level.

Aqua Development Network SA (ES)

ADN Company devotes to manage the training and career development within Agbar Group. Through ADN, AGBAR defines its training and career development programs. For this purpose, ADN has access to all the experts and researches of the Company and involves them in its definition and Implementation. The ADN program includes technological innovations both in water sector and in training. Agbar is the leader in Spain of the water sector and it is a well-know group concerning the integral water cycle around the world.

In order to continuously improve its services and decrease its environmental impact, Agbar considers Research, Development and Innovation, as well as training, as pillars of its activities. As a result, during 2008 it invested 11,41 million euro in Research, Development and Innovation. Agbar collaborates both with academics and scientists, and works with other companies from its sector aiming to achieve collective advances and promote synergisms between them.

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